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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,907

05/18/2006

Jun-Kyu Park

20070-00002

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35736

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JHK LAW

P.O. BOX 1078

LA CANADA, CA 91012-1078

EXAMINER

SMITH, FRANCIS P

ART UNIT

PAPER NUMBER

1792

MAIL DATE

DELIVERY MODE

09/11/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,907	Applicant(s) PARK, JUN-KYU	
	Examiner Francis P. Smith	Art Unit 1792	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 May 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 May 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>5/18/2006</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1-4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rubinsztajn (US 6,809,162 B2) in view of Maeda et al. (US 7,023,019 B2).

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Rubinsztajn teaches a method of encapsulating a solid state device featuring a cycloaliphatic epoxy resin. Specifically, bisphenol-A epoxy resin (a main gradient) may be mixed with methylhexahydrophthalic anhydride (an acid anhydride/curing agent) at room temperature (claim 3) (col. 4, lines 15-17, 30-35; col. 11, lines 25-65, see table 3). A first cure and a second cure step are performed at 80 and 150°C, which is analogous to the semi and complete curing steps (necessarily at an ambient pressure), (see table 1, "processing"). The encapsulating material may include a phosphor to optimize color output (col. 12, line 66-col. 13, line 10). Regarding the sequence of adding the ingredients (as per claims 1 and 4), Rubinsztajn discloses that the composition can be prepared by combining the various components in any convenient order (col. 9, lines 36-45). It is noted that the selection of any order of performing process steps is *prima facie* obviousness in the absence of new or unexpected results. *Consult In re Gibson*, 39 F. 2d 975, 5 USPQ 230 (CCPA 1930). Furthermore, the materials may be cured in two stages wherein an initial thermal cure may be conducted to produce a partially hardened epoxy resin (e.g. a semi-cured epoxy resin) (col. 9, line 65-col. 10, line 6). The composition may be applied as a potting compound/encapsulant for a LED device (e.g. feeding the obtained product into an element to be molded comprising a LED chip via a potting method as per claim 2). Rubinsztajn does not expressly teach semi-curing the liquid epoxy resin under a specific reduced pressure.

Maeda teaches a method for fabricating a light-emitting semiconductor device such that the phosphor particles are distributed evenly throughout the resin (see abstract). Specifically, a phosphor containing suspension is first semi-cured under a

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reduced pressure in order to facilitate the removal of solvent (col. 63, lines 41-44). After semi-curing, the suspension is poured into a mold and undergoes final curing (col. 63, lines 45-58). It would have been obvious to one having ordinary skill in the art at the time of the invention to apply reduced pressure conditions as taught by Maeda in Rubinsztajn's method in order to provide a uniform semi-cured film without trapping air bubbles therein. Maeda does not expressly teach a specific reduced pressure, however, it is noted that this parameter is considered result effective. It would have been well within the level of ordinary skill in the art at the time of the invention to select the optimal pressure at a specified temperature in order to hasten the curing process. A lesser curing temperature would require a greater vacuum during the semi-cure process. While lacking a notification of criticality of a specific pressure, the discovery of optimum values of result effective variables in known processes would have been obvious to a person of ordinary skill in the art at the time of the invention in the absence of unexpected results. Consult *In re Boesch and Slaney* (205 USPQ 215 (CCPA 1980)).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Francis P. Smith whose telephone number is (571) 270-3717. The examiner can normally be reached on Monday through Thursday 7:00 AM-5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mikhail Kornakov can be reached on (571) 272-1303. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/F. P. S./

Examiner, Art Unit 1792

/Michael Kornakov/

Supervisory Patent Examiner, Art Unit 1792